



*Helen
Please file
Eastman Kodak*

336667



October 31, 1978

Mr. Conrad Simon
Regional PCB Site Approval Coordinator
U.S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10007

Dear Mr. Simon:

Subject: Application for Approval to Incinerate Waste
Materials Containing PCBs at the Building 218
Chemical Waste Incinerator (ESRN 218-1) in
Kodak Park, Eastman Kodak Company, Rochester,
New York

Introduction

Occasionally at Eastman Kodak it is necessary to dispose of small quantities of waste materials containing polychlorinated biphenyls (PCBs). The outside disposal contractor used in the past to dispose of Eastman Kodak's PCB wastes is no longer able to accept such wastes. The proposed usage bans on PCBs have also potentially increased the need to dispose of greater quantities of PCB wastes within Eastman Kodak. Your approval is requested of our proposal to incinerate waste materials containing PCBs on an intermittent basis at our chemical waste incinerator under the operating conditions detailed in this application.

Background

The chemical incinerator is located in Kodak Park in Building 218 (see General Site Plan for Kodak Park, Addendum #1). It has been in operation for two years. It is recognized to be one of the most advanced in chemical waste incineration technology. This facility has an approved Certificate to Operate, issued in March 1976, under Part 201 of the New York State Air Pollution Control Regulations. Included with this application is a copy of the emissions testing report which was required in obtaining such a certification. It will detail the operating conditions of the incinerator and the removal efficiencies achieved by the emission control systems. In addition, a copy of an informative report, "The Design and Operation of a Chemical Waste Incinerator for the Eastman Kodak Company," by R. E. Bastian and W. R. Seeman, is also included.

Mr. Conrad Simon--2
October 31, 1978

The incinerator was designed by Eastman Kodak Company and Dow Engineering Company to dispose of liquid, semi-solids, and solid chemical wastes generated from various operations in Kodak Park. Liquid wastes are transported to the incinerator where they are classified according to heat value and compatibility with other wastes on site. They are pumped to a specified storage tank or directly into the incinerator. Solids and semi-solids, which are to be burned, are transported in fiberpack drums and temporarily stored in the materials handling area.

These liquid and solid wastes are fed to the rotary kiln for combustion. Solids and semi-solids are charged via the "pak" conveyor and liquids via burners. Combustion of gases from the rotary kiln is completed in the secondary combustion chamber where high heat value, "clean" burning liquid wastes, and/or fuel oil are burned. Ash from the kiln is quenched and presently sent to the Kodak Park inorganic landfill. This landfill is authorized to operate by the New York State Department of Environmental Conservation (Permit No. NY-0106275).

The exhaust gases from the incinerator pass through a quench chamber, a high energy venturi scrubber, and a spin vane type cyclonic mist eliminator. The quench chamber was designed to reduce the temperature of the incinerator exhaust gases and remove the gaseous air contaminants. The venturi-demister system was designed to remove particulate from the exhaust gas stream. Scrubbing energy and system draft are supplied by two induced draft fans in series (see Chemical Incinerator Schematic, Addendum #2).

The water from the quench, venturi, and demister is neutralized and collected in a sump where about 1100 gpm is recirculated. Makeup water is added as needed to maintain an acceptable total dissolved solids concentration. Blowdown is discharged to the Kodak Park industrial sewer. This wastewater receives both primary and secondary (complete mix activated sludge) treatment and is authorized to discharge under S/NPDES Permit No. NY 000 1643.

The incinerator was designed to dispose of waste chemicals at a rate equivalent to 90 million BTU's per hour heat input (60 million BTU's per hour in the kiln and 30 million BTU's per hour in the secondary combustion chamber). The waste charging rate is affected by the heat content on the waste and the air flow through the system. Exit temperatures from the kiln and secondary combustion chamber are automatically controlled by varying fuel rates to the kiln main burners and secondary combustion chamber main burner.

Mr. Conrad Simon--3
October 31, 1978

Storage Area and PCB Wastes to be Incinerated

The PCB storage area is located at Building 138 in relatively close proximity to the Building 218 Chemical Waste Incinerator (see Site Plan for Kodak Park). Stored PCB containers are appropriately marked and dated (per the 40 CFR 761.20 regulations). The storage area is protected from adverse weather by four continuous walls and a roof. Concrete curbing encloses the entire storage area. The containment volume it provides is more than twice the volume of the largest PCB container. The storage area contains no floor drains, expansion joints, or sewer lines which would be capable of releasing PCBs from the area in the event of a spill. The floor is continuous, smooth, and impervious concrete. At the time of this application, there was a total of 42 (30 and 55 gallon) drums (18 gauge with 2 bung head) containing PCB wastes in the storage area. The Utilities Division at Kodak Park coordinates the storage of PCBs by inspecting the containers at least once every 30 days and recording the exact contents of each PCB container when it arrives for storage.

The breakdown of the PCBs contained in this area and expected to be incinerated is as follows:

- 14 drums (55 gallon) of Askarel waste liquid (4543 Kg PCB)
- 2 drums (30 gallon) of Askarel waste liquid (354 Kg PCB)
- 3 drums (55 gallon) of Arochlor Solids
- 10 drums (55 gallon) of contaminated rags
- 8 drums (55 gallon) of contaminated snow melt
- 5 empty drums, once containing PCBs
- 6 capacitors

Because of the small quantities of waste PCBs generated, Eastman Kodak does not intend to dispose of PCBs frequently if this application is approved. These PCB wastes are representative of what is expected to be incinerated, but in such a large organization as Eastman Kodak it is possible that other PCB wastes will require high temperature incineration.

Mr. Conrad Simon--4
October 31, 1978

Incineration of Wastes Containing PCBs

Normal operating temperatures of the Building 218 incinerator are 760°C (1400°F) in the kiln and 980°C (1800°F) in the secondary combustion chamber. However, the temperatures in both the kiln and secondary combustion chamber can be raised to 1200°C (2200°F) and maintained for the required periods of time necessary to insure complete combustion of wastes containing PCBs. The refractory in the kiln and secondary combustion chamber have an upper temperature limit of 1650°C (3000°F). The dwell time in the incinerator at 1200°C (2200°F) is calculated to be 2.4 seconds with 30-40 percent excess oxygen in the stack gases. Using the combustion efficiency equation published in the PCB incineration regulations (40 CFR 761.40), a combustion efficiency will be calculated. We expect to achieve an equal to or greater than 99 percent combustion efficiency. The stack concentrations of CO₂, O₂, and CO shall be continuously monitored during PCB burning.

The suggested burning procedure when incinerating wastes containing PCBs at the Building 218 incinerator is detailed below.

1. The kiln and secondary combustion chamber temperature shall be increased to 1200°C.
2. Liquid PCB wastes shall be pumped from 55 gallon drums and fed into the kiln. The rate will be approximately 1-5 gpm. The specific burning rate will be regulated so that the hydrochloric acid (HCl) emission limit for the incinerator is not exceeded. PCBs which are fed to the combustion system shall be measured and recorded in units of approximately 50 gallons (each time a drum has been completely emptied).
3. The temperatures within the incinerator shall be measured at the end of the kiln and the secondary combustion chamber. Both locations will be continuously measured and recorded using shielded Type K Thermocouples (installed 18 inches in the air stream) and on-line strip chart recorders. If at any time during the burning of PCB wastes the temperature in either the kiln or secondary combustion chamber drops below the 1200°C temperature, the PCB feed shall be shutdown automatically.

Mr. Conrad Simon--5
October 31, 1978

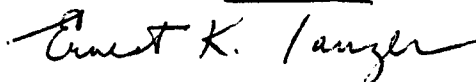
4. Stack emissions shall be monitored when the incinerator is first used to burn PCB wastes to insure complete combustion. The sampling shall be conducted by the Office of Environmental Conservation. The analyses will be performed by the Kodak Park Industrial Laboratory. The parameters to be monitored will be: (a) oxides of nitrogen (NO_x); (b) hydrochloric acid (HCl); (c) total chlorinated organic content (RCL); (d) PCB chemical substances; and (e) total particulate matter.

The combustion products that will be continuously monitored whenever the unit is incinerating PCB wastes will be O₂, CO, and CO₂. The grab sampling portion of EPA Method #3 will be used to determine the concentrations of O₂, CO, and CO₂ for the duration of PCB burning.

5. When PCB contaminated rags are to be incinerated, the combustion criteria and monitoring shall be identical as with the incineration of liquid PCB wastes. Rags will be charged to the kiln in cardboard drums. On occasion empty steel drums that have some residual quantities of PCB on their walls will be charged to the kiln to provide effective decontamination of those containers.
6. Complete records will be kept as to the dates and time periods when the Building 218 incinerator is used to dispose of PCB wastes as well as the rates and total quantities of PCBs incinerated.

In conclusion, Eastman Kodak requests your approval to incinerate waste materials containing PCBs at the Building 218 Chemical Waste Incinerator under the conditions described in this application. If additional information is required, please call me at 716/722-2914. Eastman Kodak extends an invitation to you to visit our facility. This will aid in evaluating our PCB disposal application.

Very truly yours,



Ernest K. Tanzer, P.E.
Office of Environmental Conservation
Engineering Division, Building 23

PEL/jdp

Enc.

FACT SHEET

Eastman Kodak Company
Kodak Park Division
1669 Lake Avenue
Rochester, New York

Background

- Facility covers 2000 acres in Monroe County
- Nearly 200 major manufacturing buildings
- The site has been used for 100 years
- Manufacturing processes include:
 - manufacture of synthetic organic chemicals
 - manufacture of film, paper, processing chemical
 - equipment fabrication
 - research and development
- Wastes generated include:
 - spent solvents
 - heavy metals
 - ignitable, corrosive wastes
- Part B permit issued 4/5/86. RCRA units include:
 - 5 waste solvent storage areas
 - 3 containerized waste solids storage areas
 - 1 chemical waste incinerator (no PCB or dioxin)
- Permit requires investigation of impact of Weiland Road landfill (non-regulated) on soil and groundwater.
- Permit was written such that investigation of any other SWMUs requires a permit modification.

Releases

• Building 54 & 55 (Eastman Avenue)

- 10,000 ppm methylene chloride detected in groundwater
- probable source is 8 underground storage tanks containing solvents
- plume has migrated off-site in a northward direction
- no public or private drinking water wells are threatened
- residential areas are in the pathway of the plume
- Excavation for the planned Monroe County sewer tunnel will intercept plume
- Kodak has installed monitoring wells on and off-site in an effort to define plume
- Kodak has initiated pumping and treating of this plume

• Building 115 (Rand St.)

- ^{~6,000} 64,900 ppm methylene chloride and 69,200 ppm methanol detected in groundwater
- probable source is tank farm (200 underground tanks) storing unused and waste solvents
- plume has migrated off-site in a southward direction
- no public or private drinking water wells are threatened
- monitoring wells have been installed to identify plume and Kodak has initiated pumping and treating
- residential area in pathway of plume
- Monroe County Health Department has done a preliminary endangerment assessment (i.e, record review, interview of possibly affected residents) and has found no evidence of an imminent threat to human health
- NYSDEC computer models predict movement of methylene chloride vapor into basements but at levels well below explosion or inhalation danger levels (40-80 ppm). Air sampling of basements will be conducted by Kodak as part of their investigation (see below).

• Building 29

- contaminated soil was identified during excavation for a new building
- low levels of methylene chloride (low ppm)
- no immediate threat to human health has been identified at this time
- Excavated soil is being stored on-site

- Approximately six other areas of contamination have been identified by Kodak throughout the site in the past month. DEC has been notified and does not see imminent threat to human health. Information is being forwarded to EPA and will be integrated into our overall enforcement strategy.

Public
Involvement

- ° Rochester community is very interested in situation. Two public meetings were held by the community that attracted several hundred residents. The public is demanding that Kodak respond to the situation and take all measures necessary to protect human health. Economic issues are also being raised by the community (e.g., property values).
- ° Kodak appears to be very sensitive to the public. They are increasing their interaction with the public through meetings and newsletters and have indicated to DEC that they will conduct any investigations required.
- ° Local and regional Press has prominently featured the story. Rochester Democrat, New York Times, and the Wall Street Journal have run articles (attached).

RESPONSE STRATEGY

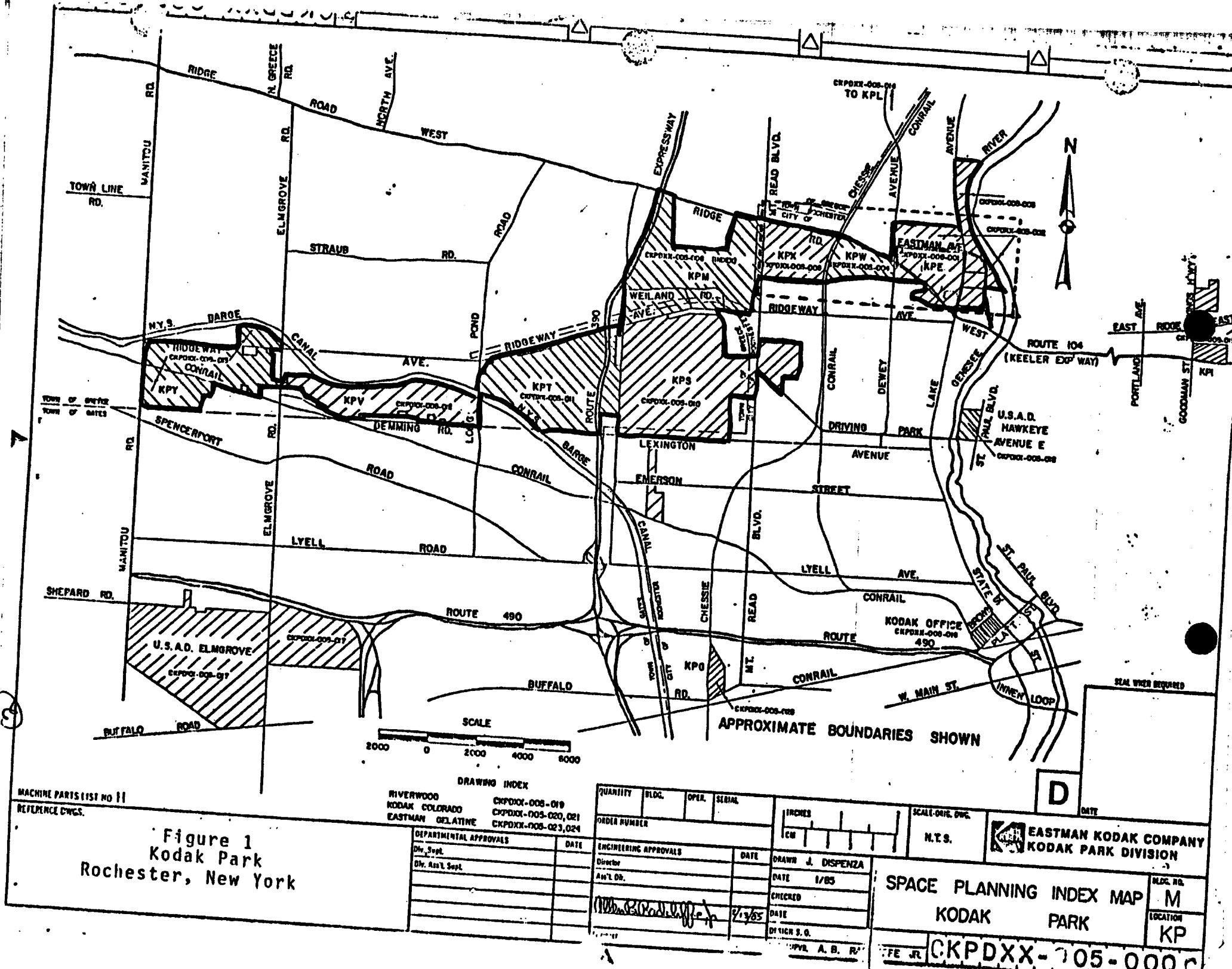
- DEC (Short - term)
- ° Albert Butkas, DEC's Region 8 Administrator, is coordinating all response activities.
 - ° "Kodak Park Technical Advisory Committee" has been developed to evaluate conditions. Participants include DEC, Kodak, NY Dept. of Health, Monroe County, and concerned citizens.
 - ° Region 8 has developed a multi-media workgroup. DEC HQ is taking lead on Corrective Action issues.
 - ° Although immediate risks to human health have not yet been identified, this continues to be the highest priority of all parties involved.
- EPA (Short - term)
- ° 3008(a) Complaint to be issued (by May 15) for failing to notify EPA of releases requiring:
 - Penalty (amount being calculated, will be \$100 - 200,000.)
 - Submission of all relevant documents;
 - Termination of permit (our fall-back position will be modification of permit).
 - ° Criminal investigation is continuing at a preliminary stage. Failure to notify and illegal disposal practices are being evaluated. EPA, DEC, FBI, and the U.S. Attorney will reconvene in early May (they met in early April) to discuss the future direction of the investigation.
 - ° TSCA supeona will be utilized to identify on-site toxic substances.
- DEC (Long - term)
- ° DEC drafting complaints against Kodak to require proper handling of excavated contaminated materials at Building 53 and 29. Remediation of these areas will be required under State Superfund or Permit.
 - ° State Superfund Consent Order has been drafted by DEC that will require investigation of Rand St. area. Kodak indicated that they are willing to sign. Order will include:
 - Source information (e.g. tanks, processes);
 - Groundwater investigation;
 - Soil investigation.

- EPA (Long - term) • A RCRA Facility Assessment must be conducted at Kodak as soon as possible. All past and present waste handling practices should be evaluated through on-site investigations, interviews, record reviews, aerial photograph analysis, etc., with the goal of identifying all areas of potential release of hazardous wastes and constituents.

Due to Kodak's recalcitrance in notifying EPA and DEC of release information, it is not appropriate that Kodak perform the RFA. Other options include:

- EPA Contractor
- DEC Contractor
- NEIC

- Part B Permit will be modified to require RFI's at all areas of known or suspected releases. Modification will become effective within 3 months.



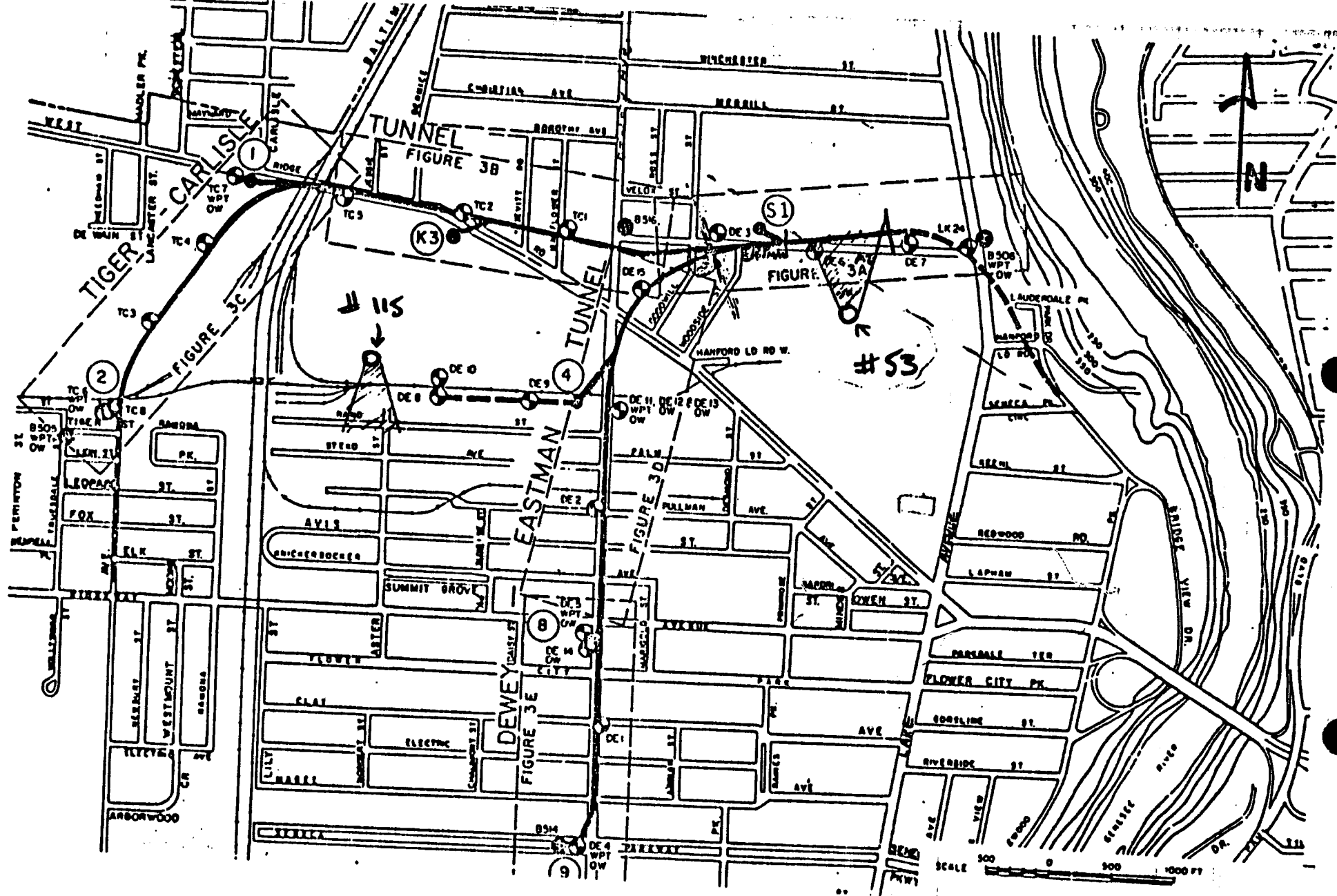


Figure 2
Rochester Pure Waters District CSOAP Tunnels
Kodak Park Area

FACILITY - SPECIFIC ITEMS OF CONCERN :

- CHECK RECORDS OF KINGS LANDING TREATMENT PLANT FOR HIGH LEVELS OF ORGANICS RECEIVED IN THE INFLUENT STREAM(S).
- THE KODAK MULTI-PURPOSE SEWER LINE (WHICH "CATCHES" ALL RELEASES) IS AN INFLUENT STREAM TO THE PLANT.
- KODAK HAS VERBALLY INDICATED IN THE PAST THAT WHEN HIGH LEVELS OF ORGANICS ARE DETECTED AT THE PLANT, THE MAIN PLANT IS CONTACTED FOR EXPLANATIONS.
- CHECK TANK-CLEANING PROCEDURES . . . DO THEY TYPICALLY PLACE ~~THE~~ TANK CONTENTS ONTO UNPROTECTED GROUND?
- CHECK FOR THE EXISTENCE OF "TRAP TANKS" (SPILL CONTAINMENT TANKS)
- CHECK FOR EXISTENCE OF WELLS. (NOTE: KODAK HAS BEEN CAUGHT LYING TO DEC ABOUT AVAILABLE MONITORING WELLS AND WELL DATA . . . KODAK'S CONTACT CLAIMED SHE WAS NOT AWARE OF WELLS INSTALLED < 6 MONTHS BEFORE.)
- CHECK FOR REPORTS/WORKPLANS/DATA AVAILABLE AT KODAK. (NOTE: KODAK HAS BEEN PROVIDING INFO. IN A PIECE-MEAL FASHION . . . "LIKE PULLING TEETH").

AREAS OF ENVIRONMENTAL CONTAMINATION :

- KODAVISTA (BLDG 329) — MeCl
- RAND ST. /KPW (BLDG 115) — MeCl, Methanol
- SOLVENT RECOVERY AREA /KPW — MeCl, Methanol
- BUILDING 199 — Vinylidene Chloride.
 - BUILDING RAISED OFF GROUND.
- BUILDING 53,54,55 / KPE — MeCl

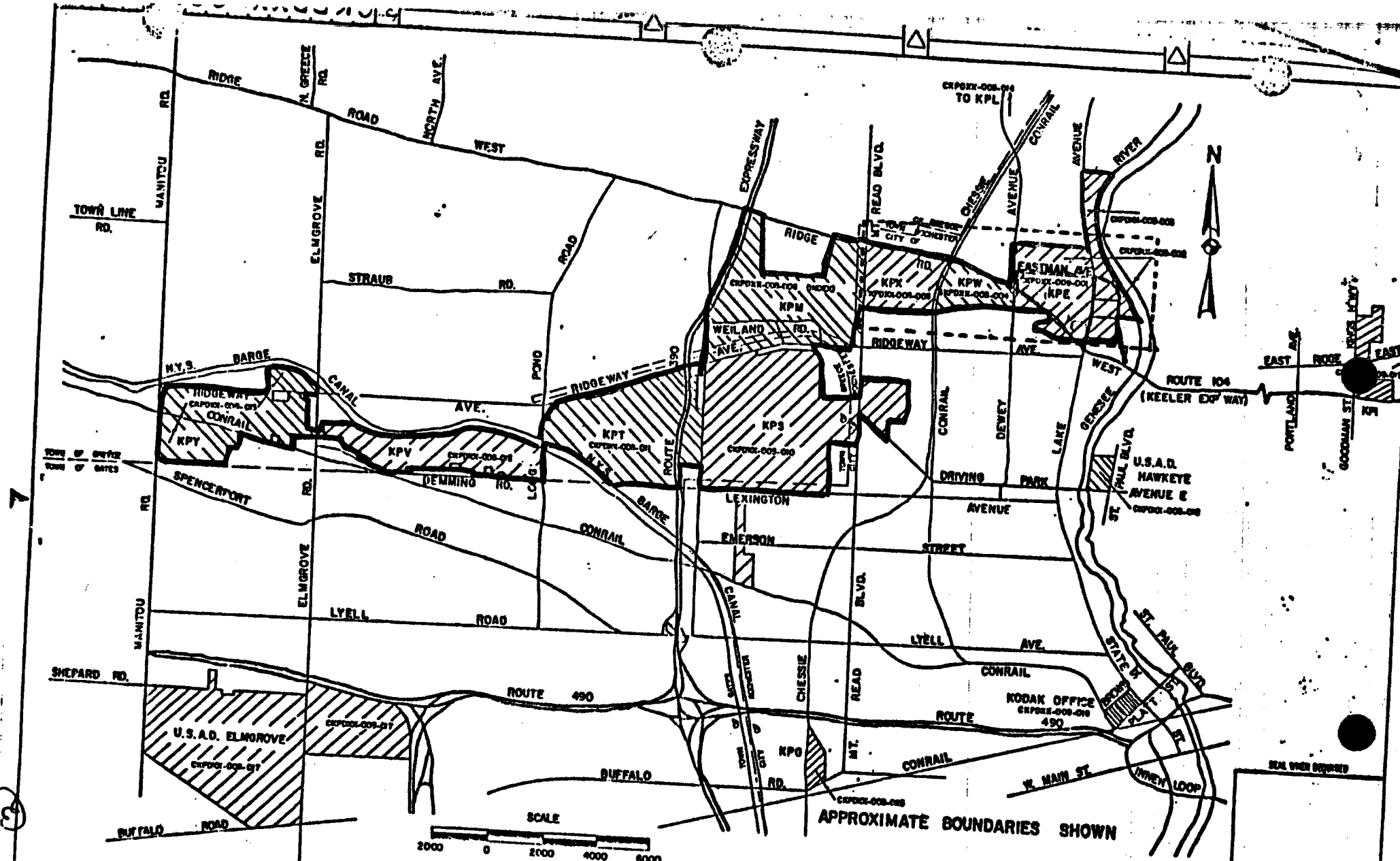


Figure 1
Kodak Park
Rochester, New York

MACHINE PARTS LIST NO 11
 REFERENCE CHGS.

DRAWING INDEX
 RIVERWOOD CKPDXX-005-019
 KODAK COLORADO CKPDXX-005-020,021
 EASTMAN OELATIVE CKPDXX-005-023,024

DEPARTMENTAL APPROVALS		ENGINEERING APPROVALS		QUANTITY		BLOC.		OPL.		SERIAL	
Dr. Sept.	DATE	Director	DATE	INCHES	SCALE	SCALE	SCALE	SCALE	SCALE	SCALE	SCALE
Div. Asst. Sept.		Asst. Dir.		1/8"							
				1/4"							
				3/8"							
				1/2"							
				3/4"							
				1"							

SPACE PLANNING INDEX MAP
KODAK PARK

EASTMAN KODAK COMPANY
KODAK PARK DIVISION

SCALE
 1" = 1000'

DATE
 1/83

LOCATION
 KP

CKPDXX-005-000

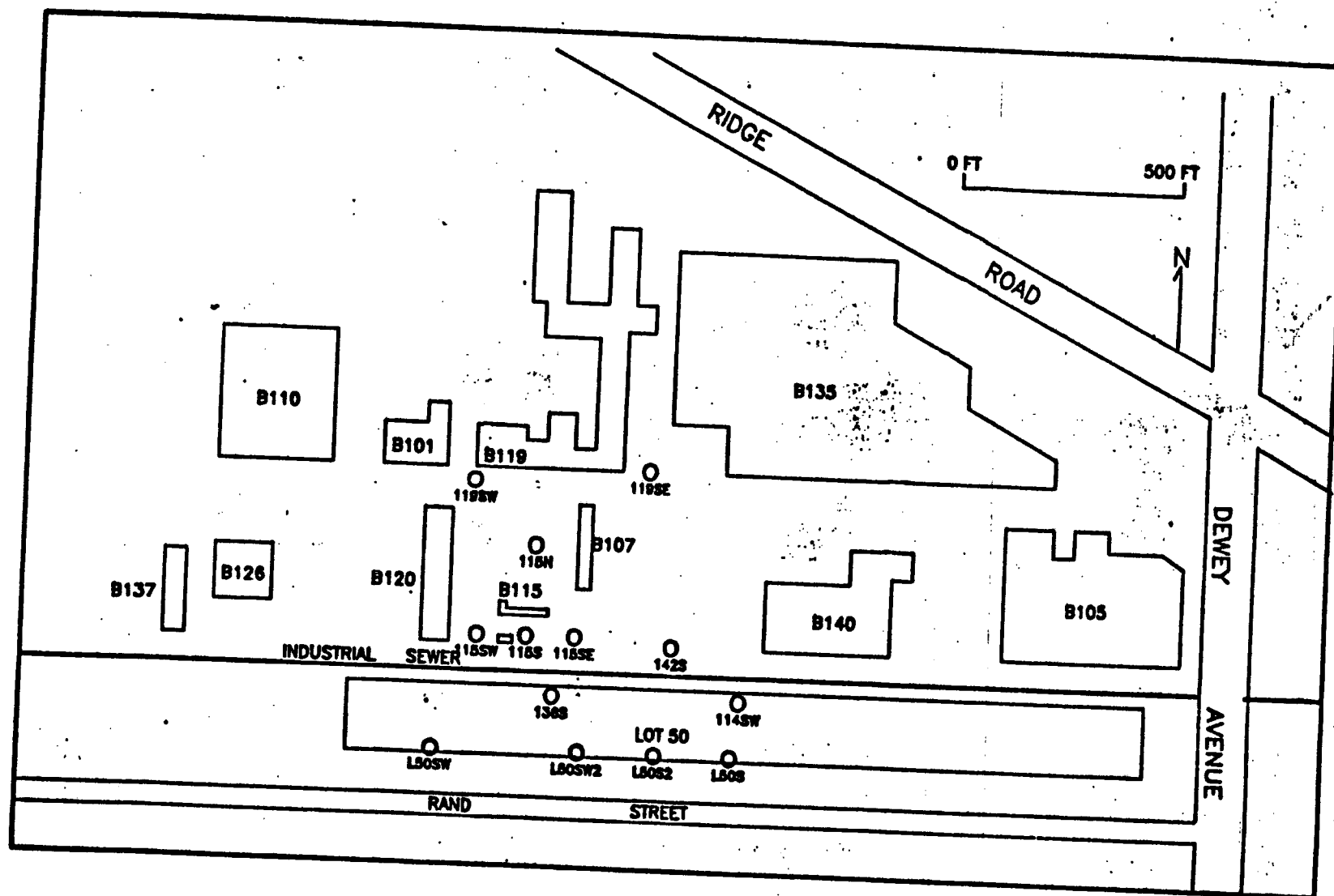


FIGURE 5

CURRENT WELL LOCATION MAP

Figure 6

KPE Groundwater Site Investigation
Monitoring Well Locations

